

What is claimed is:

1. A circuit board comprising:

a substrate; and

electrical contacts to mate with a slot connector, the contacts comprising a first set of contacts associated with the communication of power and second set of contacts associated with the communication of signals and not used to communicate power, adjacent contacts of the first set having a first spacing and adjacent contacts of the second set having a second spacing different from the first spacing.

2. The circuit board of claim 1, wherein the first spacing comprises a pitch of approximately twice a pitch of the second spacing.

3. The circuit board of claim 1, wherein the substrate comprises an edge to be inserted into a slot connector housing, and the first and second set of contacts are formed on the edge.

4. The circuit board of claim 1, wherein the first spacing comprises a pitch of approximately 0.05 inches and the second spacing comprises a pitch of approximately 0.10 inches.

5. The circuit board of claim 1, further comprising:
power regulation circuitry mounted on the substrate and in electrical communication with the first set of contacts.

6. A circuit board comprising:

circuitry; and

a substrate supporting the circuitry and having a contact edge to be inserted into a slot connector housing, the substrate having a profile engaged by the connector housing to hold the circuit board in the slot connector housing.

1 7. The circuit board of claim 6, wherein the profile is engaged by a mechanism
2 located inside the slot connector housing.

1 8. The circuit board of claim 7, wherein the mechanism comprises at least one of
2 a spring located entirely inside the connector housing and a plastic latch internal to the
3 connector housing.

1 9. The circuit board of claim 6, wherein the profile comprises a notch formed in
2 another edge of the substrate.

1 10. The circuit board of claim 9, wherein said another edge extends in an
2 orthogonal direction to the edge inserted in the slot connector housing.

1 11. A method comprising:
2 supporting circuitry on a substrate to form a circuit board; and
3 forming a profile in the substrate to engage a slot connector housing to hold the circuit
4 board in the slot connector housing.

1 12. The method of claim 11, further comprising:
2 engaging the profile with a mechanism located inside the slot connector housing.

1 13. The method of claim 11, wherein the mechanism comprises a spring located
2 entirely inside the connector housing.

1 14. The method of claim 11, further comprising:
2 forming electrical contacts on a first edge of the substrate to circuit board; and
3 forming the profile on a second edge of the substrate, the second edge extending in a
4 direction substantially orthogonal to a direction along which the first edge extends.

1 15. A connector comprising:
2 a housing including a slot to receive a circuit board, the housing being formed from a
3 material having a thermal conductivity of at least approximately 0.27 W/m·K; and
4 electrical contacts secured to the housing to establish electrical communication with
5 electrical contact pads of the circuit board.

1 16. The connector of claim 15, wherein the material comprises a liquid crystal
2 polymer.

1 17. The connector of claim 15, wherein the housing comprises fins to promote
2 conduction of heat away from the circuit board when the circuit board is inserted into the slot.

1 18. A method comprising:
2 using a material having a thermal conductivity of at least approximately 0.27 W/m·K
3 to form a housing for a slot connector, the housing having a slot to receive a circuit board;
4 and
5 using the thermal conductivity of the material to conduct heat away from circuitry of
6 the circuit board.

1 19. The method of claim 18, wherein the material comprises a liquid crystal
2 polymer.

1 20. The method of claim 18, further comprising:
2 forming fins in the housing to conduct heat away from the circuit board when the
3 circuit board is inserted into the slot.

1 21. A method comprising:
2 providing a slot connector to receive a circuit board; and
3 forming fins on the slot connector to conduct heat away from circuitry of the circuit
4 board.



1 22. The method of claim 21, wherein the slot connector couples the circuit board
2 to another circuit board, the method further comprising:
3 providing an edge of the slot connector to mount to said another circuit board; and
4 creating clearances between each fin and the edge.

1 23. The method of claim 22, wherein each of the clearances is in a range between
2 approximately 1/4 inches and approximately 3/8 inches.

1 24. The method of claim 22, further comprising:
2 forming the fins out of a liquid crystal polymer.

1 25. A slot connector comprising:
2 a housing including a slot to receive a circuit board;
3 electrical contacts to establish electrical communication with electrical contacts of the
4 circuit board; and
5 a retention mechanism to engage a profile of the circuit board to secure the circuit
6 board to the slot connector.

1 26. The slot connector of claim 25, wherein the retention mechanism is located
2 entirely inside the slot.

1 27. The slot connector of claim 25, wherein the retention mechanism comprises a
2 spring.

1 28. A method comprising:
2 using a housing to form a slot to receive a circuit board;
3 attaching a retention mechanism to the housing to engage a profile of the circuit
4 board to secure the circuit board to the housing.

1 29. The slot connector of claim 28, further comprising:
2 disposing the retention mechanism entirely inside the slot.

1 30. The slot connector of claim 28, wherein the retention mechanism comprises at
2 least one of a spring and a plastic latch.

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for the purpose of the prior art